

## APPENDIX A

### FUNCTIONAL AREA TEMPLATES

This section presents and describes functional area templates (FATs) that were derived from a decomposition of the Brawler simulation into a hierarchy of functions suitable for targeting V&V efforts. The templates are organized in a top-down fashion, as is illustrated in Figure A-1.

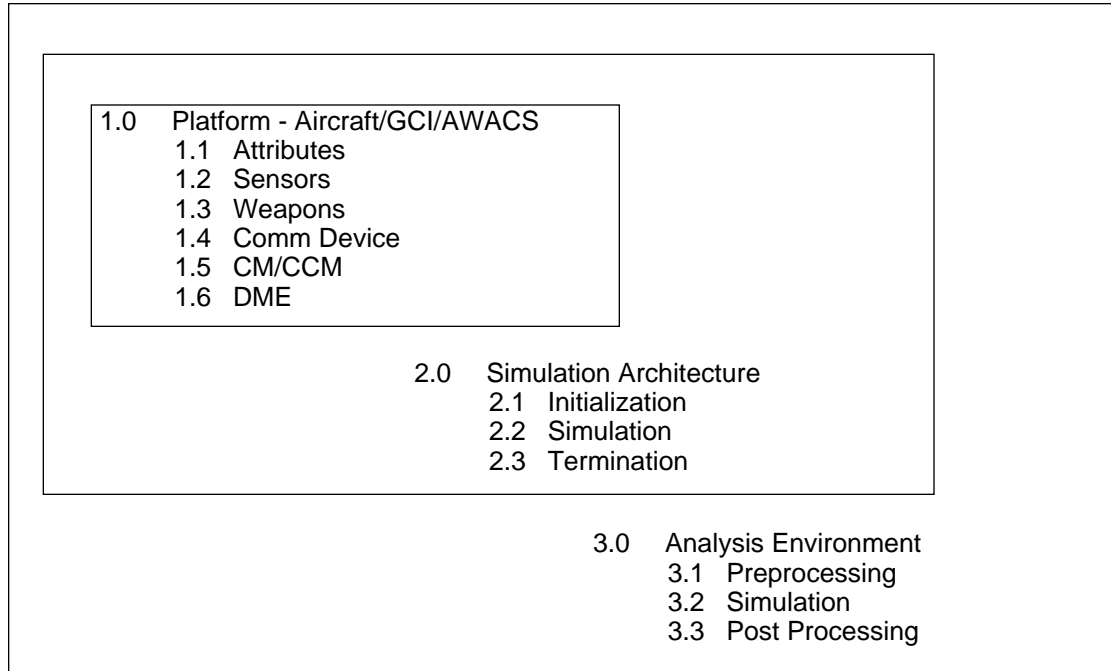


FIGURE A-1. Functional Area Template Organization.

Section I, Analysis Environment, outlines the various tools that comprise the entire Brawler package. These tools include utility programs for the development and verification of input data as well as post-processors for analysis and report generation. This section is intended to answer questions about the steps involved in performing studies with Brawler and the nature of the tools available to help with each of those steps.

Section II, Simulation Architecture, outlines the structure of the main simulation program *tbmain*. It is intended to answer questions about how the main simulation functions and to assess the suitability of interfaces between Brawler and other simulation applications.

Sections III and IV, Operator Models and Physical Models, and the sections that follow them, provide details on the modeling of real-world systems and subsystems in Brawler. The Operator Models section deals with the simulation of decision makers, and the Physical Models section deals with the simulation of platforms, weapons, avionics, and countermeasures.

## PLATFORM AIRCRAFT TARGET

- 1.0 Attributes
  - 1.1 Configuration
  - 1.2 Movement
    - 1.2.1 Propulsion
    - 1.2.2 Aero/Kinematics
      - 3 DOF
      - Blue Max
  - 1.3 Signatures
    - 1.3.1 *EO*
    - 1.3.2 *IR*
    - 1.3.3 RF
      - Static
      - Dynamic
      - Fluctuations
  - 1.4 Vulnerability
- 2.0 *Sensors*
- 3.0 *Weapons*
- 4.0 *Comm Devices*
- 5.0 ECM
  - 5.1 Noise
    - 5.1.1 On-Board
    - 5.1.2 Off-Board
  - 5.2 Deceptive
    - 5.2.1 On-Board
    - 5.2.2 Off-Board
- 6.0 *DME*

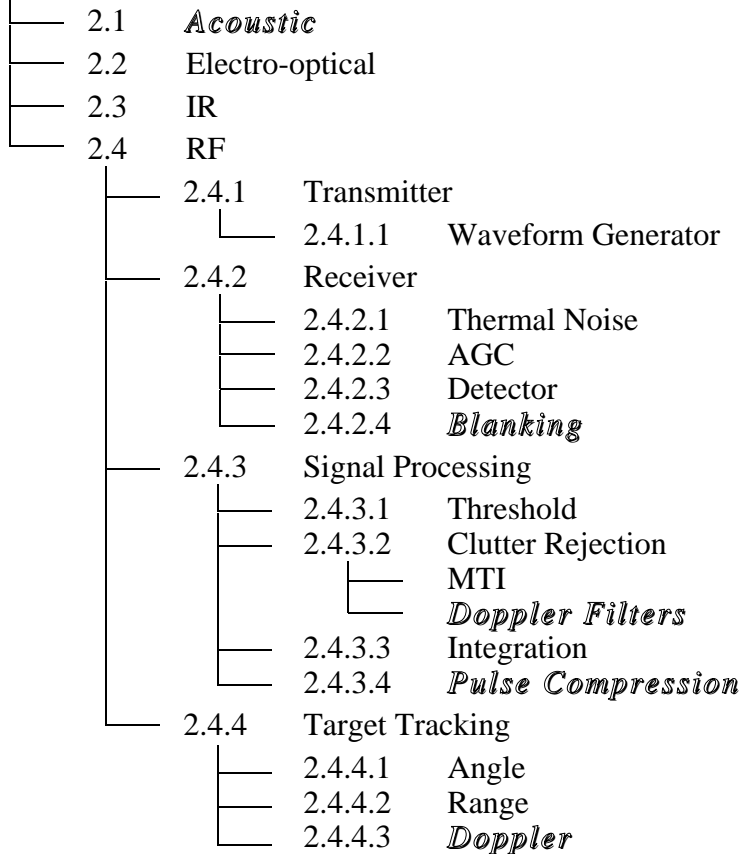
## ENVIRONMENT

- 1.0 Atmospheric
  - 2.1.1 Attenuation
  - 2.1.2 Refraction/Ducting
  - 2.1.3 Radiance/Transmittance
- 2.0 Topographic
  - 2.3.1 Clutter (Terrain/Sea/Culture)
  - 2.3.2 Multipath/Diffraction
  - 2.3.3 Masking

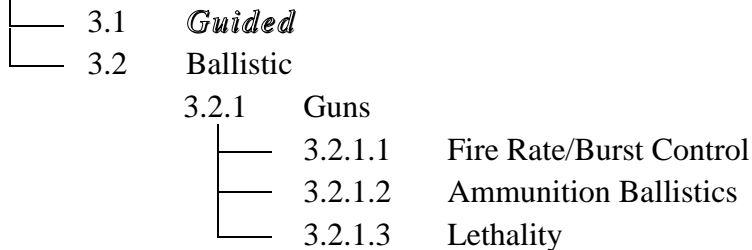
## PLATFORM AAA SYSTEM

### 1.0 *Attributes*

### 2.0 Sensors



### 3.0 Weapons



### 4.0 *Comm Devices*

### 5.0 CCM

### 6.0 DME



